

## Seven species of the families Liocranidae and Corinnidae (Araneae) from Japan and Taiwan

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**Abstract** — Five species of the family Liocranidae and two species of the family Corinnidae are reported. *Phrurolithus vulpes* n. sp. is described from Hiroshima Prefecture, Japan. *Phrurolithus sinicus* Zhu & Mei 1982, *P. taiwanicus* Hayashi & Yoshida 1993, *P. labialis* Paik 1991, and *Corinna gulosa* (Thorell 1878) are recorded from Japan for the first time. The genus *Corinna* is newly added to the Japanese fauna. *Phrurolithus lynx* Kamura 1994 is newly recorded from Taiwan. Males of *Phrurolithus taiwanicus* and *Castianeira shaxianensis* Gong 1983 are described for the first time. .

**Key words** — *Castianeira shaxianensis*, *Corinna gulosa*, *Phrurolithus labialis*, *Phrurolithus lynx*, *Phrurolithus sinicus*, *Phrurolithus taiwanicus*, *Phrurolithus vulpes*.

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In the present paper, I deal with five species of the genus *Phrurolithus* (Liocranidae), one species of the genus *Corinna* (Corinnidae) and one species of the genus *Castianeira* (Corinnidae).

Seven species of the genus *Phrurolithus* have been known from Japan up to the present (Tanikawa 2000). I have found four additional species of this genus from Japan. Of these, one species is new to science, and the other three are new to the Japanese fauna: *Phrurolithus sinicus* Zhu & Mei 1982, *P. taiwanicus* Hayashi & Yoshida 1993, and *P. labialis* Paik 1991.

Specimens of the new species were collected from Hiroshima Prefecture. Specimens of *Phrurolithus sinicus* and *P. labialis* were collected from Kyoto and Okayama Prefectures, and Kanagawa and Hiroshima Prefectures, respectively.

*Phrurolithus taiwanicus* was originally described from Taiwan based only on female specimens, and the male has never been recorded. One of the previously known Japanese species, *Phrurolithus lynx* Kamura 1994, has been recorded from Okinawa Prefecture, southwest Japan. After the examination of specimens collected from Taiwan and Nansei Islands, southwest Japan, I have recognized that these two species each occur in both Taiwan and Japan, and I have found the male specimens of *P. taiwanicus*.

The genus *Corinna* has never been reported from Japan. I collected a certain species from Okinawa

Prefecture and identified it with *Corinna gulosa* (Thorell 1878), which was recorded from South East Asia.

*Castianeira shaxianensis* Gong 1983 was originally described from China. In Japan this species was known as *Castianeira* sp. (for example Yaginuma 1960, 1986; Chikuni 1989) until Yaginuma (1991) clarified that the Japanese species belongs to *C. shaxianensis*. There was no report of the male of this species except for Chikuni's book (1989) in which the male of *Castianeira* sp. was shown. I describe the male of this species in this paper.

The type specimens of the new species described in this paper are deposited in the collection of the Department of Zoology, National Science Museum, Tokyo (NSMT).

The abbreviations used in this paper are as follows: ALE, anterior lateral eye; AME, anterior median eye; d, dorsal; HO, Hirotsugu Ono leg.; MOA, median ocular area; pl, prolateral; pv, proventral; PLE, posterior lateral eye; PME, posterior median eye; rv, retroventral; TTK, Takahide & Takae Kamura leg. Eye size means the length of long axis of an eye, but the measurement of posterior median eye was made at the horizontal level.

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# Family Liocranidae

## *Phrurolithus vulpes* n. sp.

[Japanese name: Kogane-urashimagumo]

(Figs. 1–7)

Type series. Holotype: ♂, Todani, Toyohira-cho, Yamagata-gun, Hiroshima Pref., Japan, 3.VI.1990, Y. Ihara leg. (NSMT-Ar 4825). Paratype: ♀, same data as for the holotype (NSMT-Ar 4826).

Other specimens examined. 1 ♀, Otsuchiyama, Mukaihara-cho, Takata-gun, Hiroshima Pref., Japan, 10. VI. 1989, Y. Ihara leg.

Description (based on the male holotype and the female paratype). Measurements (in mm). Body length ♂ 2.98, ♀ 4.55. Carapace length ♂ 1.44, ♀ 1.76; width ♂ 1.20, ♀ 1.48. Abdomen length ♂ 1.54, ♀ 2.50; width ♂ 0.97, ♀ 1.54. Eye sizes: AME ♂ 0.07, ♀ 0.08; ALE ♂ 0.10, ♀ 0.11; PME ♂ 0.07, ♀ 0.08; PLE ♂ 0.08, ♀ 0.09. Distances between eyes: AME-AME ♂ 0.04, ♀ 0.05; AME-ALE ♂ 0.01, ♀ 0.01; PME-PME ♂ 0.08, ♀ 0.10; PME-PLE ♂ 0.06, ♀ 0.06; ALE-PLE ♂ 0.06, ♀ 0.08. MOA anterior width ♂ 0.18, ♀ 0.20; posterior width ♂ 0.22, ♀ 0.26; length ♂ 0.20, ♀ 0.23. Clypeus height ♂ 0.10, ♀ 0.12. Length of legs as in Table 1.

Variation. 1 ♀ from Otsuchiyama: body length 4.33 mm; carapace length 1.53 mm, width 1.28 mm; abdomen length 2.65 mm, width 1.70 mm.

Spines on legs. Femora I–IV each with no or one dorsal spine; femora I–II each with long prolateral spines; tibiae I–II and metatarsi I–II each with long ventral spines. Number of spines: ♂: femur I d 0 or 1, pl 4; femur II d 0 or 1, pl 2; femur III d 1, femur IV d 0 or 1; tibia I pv 5 or 6, rv 5 or 6; tibia II pv 6, rv 5; metatarsus I pv 4, rv 4; metatarsus II pv 4, rv 3. ♀: femur I d 0 or 1, pl 4; femur II d 1, pl 2; femora III–IV d 1; tibia I pv 7, rv 7; tibia II pv 7, rv 6; metatarsus I pv 4, rv 4; meta-

tarsus II pv 4, rv 3. Legs III–IV with no spine except for dorsal sides of femora.

Chelicera with two spines on anterior side; promargin of fang furrow with three teeth and retromargin with two teeth. Male abdomen with a dorsal scutum covering almost whole abdomen (Fig. 1). Female abdomen without a dorsal scutum (Fig. 2). Male palp (Figs. 3–5): tegulum massive, embolar base with a projection on prolateral side, retrolateral tibial apophysis uniquely shaped. Epigynum and female genitalia as shown in Figs. 6–7.

Color. ♂: cephalothorax and appendages light reddish brown, but femora I and tibia I darker, sternum paler; abdomen with dorsal surface brown, but anterior half slightly paler, posterior end and ventral surface yellowish white; spinnerets yellowish white. ♀: similar to male, but dorsum of abdomen grayish brown.

Distribution. Japan (Honshu).

Remarks. This species is similar to *Phrurolithus luna* Kamura 1994, but is easily distinguished from the latter by the uniquely shaped retrolateral tibial apophysis in male palp, and by the spermathecae posteriorly diverging in female genitalia.

Etymology. The specific name meaning a fox is a noun in apposition.

## *Phrurolithus sinicus* Zhu & Mei 1982

[Japanese name: Kotsubu-urashimagumo]

(Figs. 8–13)

*Phrurolithus sinicus* Zhu & Mei 1982, p. 49, figs. 1–5; Song 1987, p. 330, fig. 285; Platnick 1989, p. 436; Chen & Zhang 1991, p. 254, fig. 267; Paik 1991a, p. 184, figs. 58–71; Platnick 1993, p. 604; Danilov 1999, p. 317, fig. 4(B); Song *et al.* 1999, p. 412, figs. 13(L), 239(S), 240 (A–B), 241(A–B).

For other literature see Platnick (1989, 1993).

Specimens examined. Kyoto Pref., Japan: 1 ♂, E of Midorogaike moor, Kamigamo, Kyoto-shi, 75 m alt., 9–16.VI.1982, T. Kamura leg. Okayama Pref., Japan (all the specimens were collected by K. Nojima): 1 ♂ and 2 ♀, Kamitanomura, Tsuyama-shi, 29.V.1989 (1 ♀: NSMT-Ar 4827); 1 ♀, Nishihara, Nagi-cho, Katsuta-gun, 5.VIII.1992; 1 ♂, Ningyotoge, Kamisaibara-son, Tomata-gun, 6.VI.1992

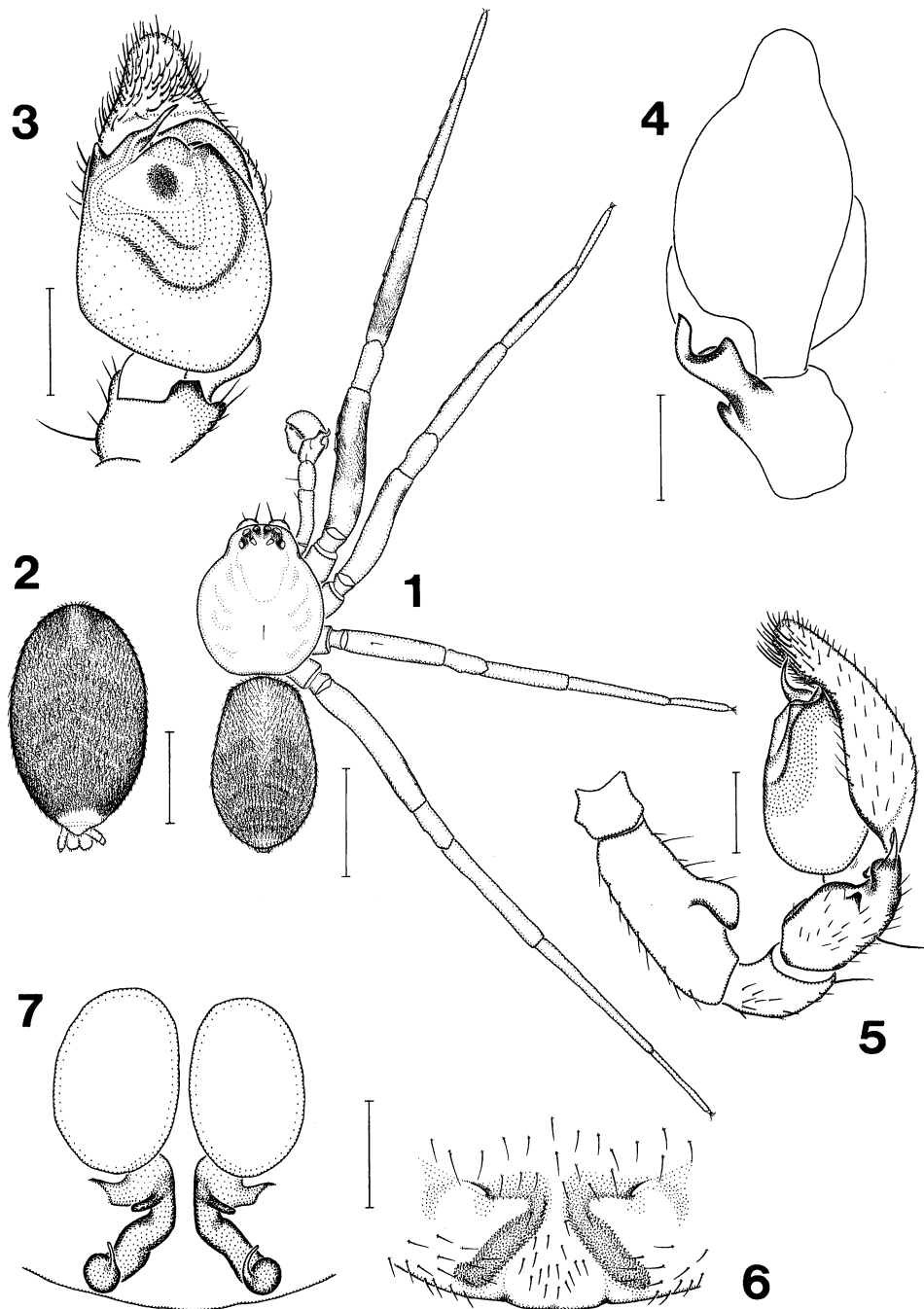
**Table 1.** Measurements of legs of *Phrurolithus vulpes* n. sp. (♂/♀, in mm).

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	1.36/1.73	0.51/0.64	1.36/1.74	1.23/1.58	0.61/0.82	5.07/6.51
II	1.14/1.48	0.48/0.60	1.04/1.36	1.00/1.29	0.60/0.82	4.26/5.55
III	0.98/1.26	0.43/0.56	0.77/1.00	0.96/1.24	0.57/0.74	3.71/4.80
IV	1.42/1.88	0.46/0.62	1.23/1.66	1.50/1.96	0.76/0.98	5.37/7.10

(NSMT-Ar 4828); 3♂, Onbara, Kamisaibara-son, Tomatagun, 17.VI.1995.

Description. Measurements (based on one male and one female from Okayama Pref., in mm). Body length ♂ 1.65, ♀ 2.05. Carapace length ♂ 0.75, ♀ 0.78; width ♂ 0.60, ♀ 0.60. Abdomen length ♂ 0.83, ♀ 1.13; width ♂ 0.48, ♀ 0.73. Eye sizes: AME ♂ 0.05,

♀ 0.05; ALE ♂ 0.07, ♀ 0.07; PME ♂ 0.05, ♀ 0.05; PLE ♂ 0.05, ♀ 0.05. Distances between eyes: AME-AME ♂ 0.02, ♀ 0.02; AME-ALE ♂ 0.01, ♀ 0.01; PME-PME ♂ 0.02, ♀ 0.03; PME-PLE ♂ 0.02, ♀ 0.02; ALE-PLE ♂ 0.02, ♀ 0.02. MOA anterior width ♂ 0.11, ♀ 0.11; posterior width ♂ 0.12, ♀ 0.13; length ♂ 0.13, ♀ 0.13. Clypeus height ♂ 0.05, ♀ 0.05.



**Figs. 1–7.** *Phrurolithus vulpes* n. sp. (male holotype and female paratype) —1, Male, dorsal view; 2, female abdomen, dorsal view; 3, left male palp, ventral view; 4, same, dorsal view; 5, same, retrolateral view; 6, epigynum, ventral view; 7, female genitalia, dorsal view. (Scales: 1–2, 1.0 mm; 3–7, 0.2 mm)

Length of legs as in Table 2.

Variation. Body length ♂ 1.53–1.75 mm, ♀ 2.05–2.20 mm. Carapace length ♂ 0.73–0.78 mm, ♀ 0.75–0.80 mm; width ♂ 0.58–0.63 mm, ♀ 0.60–0.64 mm. Abdomen length ♂ 0.80–0.90 mm, ♀ 1.13–1.33 mm; width ♂ 0.48–0.54 mm, ♀ 0.73–0.79 mm.

Spines on legs. Femora I–II with no dorsal spine; femur I with one spine on prolateral side of distal part; femur II with no prolateral spine. Tibiae I–II and metatarsi I–II each with long ventral spines: number of spines: ♂: tibia I pv 4 or 5, rv 5; tibia II pv 2 or 4, rv 3 or 4; metatarsus I pv 4, rv 3; metatarsus II pv 4, rv 2. ♀: tibia I pv 5, rv 5; tibia II pv 4 or 5, rv 4; metatarsus I pv 4, rv 3; metatarsus II pv 4, rv 2 or 3. Legs III–IV with no spine.

Chelicera with one spine on anterior side; promargin of fang furrow with three minute teeth and retromargin with two minute teeth. Male abdomen with a dorsal scutum covering almost whole abdomen (Fig. 8). Female abdomen without a dorsal scutum (Fig. 9). Male palp (Figs. 10–11): retrolateral tibial apophysis long. Epigynum and female genitalia as shown in Figs. 12–13.

Color. ♂: cephalothorax and appendages yellowish brown; dorsum of abdomen brown, with light-colored indistinct chevrons; venter of abdomen and spinnerets yellowish white. ♀: similar to male, but abdomen paler.

Distribution. Japan (Honshu), Russia, China and Korea.

Remarks. In two females examined, epigynum is covered with a dark-colored mating plug.

*Phrurolithus taiwanicus* Hayashi & Yoshida 1993

[Japanese name: Taiwan-urashimagumo]

(Figs. 14–20)

*Phrurolithus taiwanicus* Hayashi & Yoshida 1993, p. 49, figs. 8–11; Platnick 1997, p. 700; Song et al. 1999, p. 412.

Specimens examined. JAPAN: Iriomotejima Island, Okinawa Pref.: 1 ♀, NW of Mariudo-daki Falls, 20–80 m alt., 26. II. 1992, TTK; 2 ♂, E of Hoshidate, 10 m alt., 7. III. 1994, TTK. Yonagunijima Island, Okinawa Pref.: 2 ♂ &

1 ♀, Mt. Kubura-dake, 150–190 m alt., 31. XII. 1995, TTK; 1 ♀, WNW of Mt. Urabu-dake, 60–80 m alt., 31. XII. 1995, TTK (NSMT-Ar 4829); 1 ♂, same locality, 2. I. 1996, TTK (NSMT-Ar 4830); 1 ♀, SE of Mt. Urabu-dake, 100–150 m alt., 1. I. 1996, TTK; 1 ♀, NE of Mt. Kubura-dake, 120 m alt., 18. III. 1997, TTK. TAIWAN: Taipei City: 1 ♀ (paratype), Mt. Yangming-shan, 7. IV. 1979, H. Yoshida leg. (NSMT-Ar 3029). T'aichung-hsien: 1 ♀, Anma-shanchuang, 2230 m alt., 23. V. 1991, Y. Nishikawa leg. Nant'ou-hsien: 2 ♂ and 2 ♀, between Hsin-jenkang and Ts'uifeng, 2380 m alt., 15. III. 1991, HO (NSMT-Ar 4831); 2 ♂, T'iench'ih, Mt. Nengkao, 2800 m alt., 26. X. 1989, HO (NSMT-Ar 4832); 1 ♀ (holotype), Shuishe (beside Sun Moon Lake), 27. III. 1979, H. Yoshida leg. (NSMT-Ar 3028); 1 ♂, T'at'achia, Mt. Yu-shan, 2040 m alt., 5. III. 1991, HO (NSMT-Ar 4833). T'aitung-hsien: 1 ♂, Kuanshan-yak'ou, Kuanshan Mts., 2670 m alt., 9. III. 1991, HO (NSMT-Ar 4834); 1 ♀, same locality, 2570 m alt., 9. III. 1991, HO (NSMT-Ar 4835); 1 ♂, same locality, 2320 m alt., 10. III. 1991, HO (NSMT-Ar 4836); 2 ♂ and 2 ♀, between Kuanshan and Litao, 2050 m alt., 11. III. 1991, HO (NSMT-Ar 4837). Pingtung-hsien: 1 ♀, Mt. Nanjen-shan, 280 m alt., 22. III. 1991, HO (NSMT-Ar 4838).

Description. Measurements (based on one male and one female from Yonagunijima Island, in mm). Body length ♂ 3.18, ♀ 4.70. Carapace length ♂ 1.48, ♀ 1.73; width ♂ 1.23, ♀ 1.40. Abdomen length ♂ 1.70, ♀ 3.03; width ♂ 1.03, ♀ 1.95. Eye sizes: AME ♂ 0.12, ♀ 0.14; ALE ♂ 0.10, ♀ 0.12; PME ♂ 0.08, ♀ 0.10; PLE ♂ 0.10, ♀ 0.12. Distances between eyes: AME-AME ♂ 0.04, ♀ 0.04; AME-ALE ♂ 0.01, ♀ 0.01; PME-PME ♂ 0.08, ♀ 0.08; PME-PLE ♂ 0.05, ♀ 0.04; ALE-PLE ♂ 0.10, ♀ 0.09. MOA anterior width ♂ 0.24, ♀ 0.28; posterior width ♂ 0.24, ♀ 0.28; length ♂ 0.28, ♀ 0.31. Clypeus height ♂ 0.11, ♀ 0.10. Length of legs as in Table 3.

Variation. Body length ♂ 2.55–3.90 mm, ♀ 3.85–5.68 mm. Carapace length ♂ 1.18–1.68 mm, ♀ 1.45–2.11 mm; width ♂ 1.00–1.40 mm, ♀ 1.23–1.74 mm. Abdomen length ♂ 1.30–1.95 mm, ♀ 2.13–3.32 mm; width ♂ 0.78–1.30 mm, ♀ 1.30–2.30 mm.

Spines on legs. Femora I–IV each with usually one (rarely no or two) dorsal spine; femora I–II each with long spines on prolateral side; tibiae I–II and metatarsi I–II each with long ventral spines. Number of spines: ♂: femur I d 0 or 1, pl 3, 4 or 5; femur II d 1, pl 2 or

**Table 2.** Measurements of legs of *Phrurolithus sinicus* Zhu & Mei 1982 (♂/♀, in mm).

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	0.58/0.60	0.24/0.26	0.50/0.53	0.48/0.52	0.32/0.34	2.12/2.25
II	0.50/0.52	0.22/0.24	0.36/0.39	0.40/0.42	0.31/0.34	1.79/1.91
III	0.42/0.43	0.19/0.20	0.28/0.30	0.38/0.38	0.29/0.31	1.56/1.62
IV	0.62/0.65	0.25/0.26	0.50/0.54	0.60/0.60	0.41/0.42	2.38/2.47

3; femora III–IV d 1; tibia I pv 6 or 7, rv 6, 7 or 8; tibia II pv 6 or 7, rv 5, 6 or 7; metatarsus I pv 4 or 5, rv 3 or 4; metatarsus II pv 4, rv 2 or 3. ♀: femur I d 0 or 1, pl 4, 5 or 6; femur II d 0 or 1, pl 2, 3 or 4; femur III d 1; femur IV d 1 or 2; tibia I pv variable from 7 to 10, rv variable from 7 to 11; tibia II pv variable from 6 to 9, rv variable from 6 to 9; metatarsus I pv 4 or 5, rv 3 or 4; metatarsus II pv 3, 4 or 5, rv 2, 3 or 4. Legs III–IV with no spine except for dorsal sides of femora.

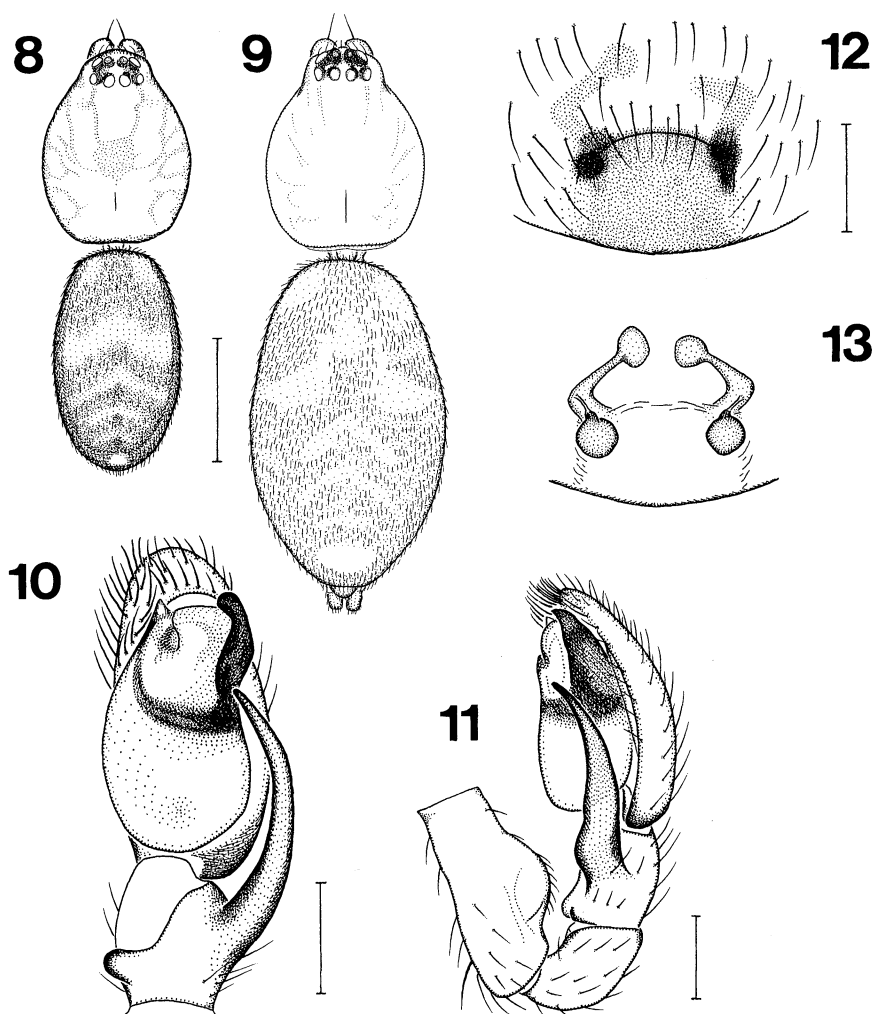
Chelicera with two spines on anterior side; promargin of fang furrow with three teeth and retromargin with two, three or four teeth. Abdomen with short stiff bristles on postero-ventral part. Male abdomen with a narrow dorsal scutum on anterior part (Fig. 14). Female abdomen without a dorsal scutum (Fig. 15). Male palp (Figs. 16–17): embolus roundly curved;

embolar base with a small projection on retrolateral side. Epigynum and female genitalia as shown in Figs. 18–19.

Color. Somewhat varied with individuals. Cephalothorax and appendages yellowish brown to light reddish brown, but in some specimens carapace with distinct brown markings as shown in Fig. 14, and legs with femora, patellae and tibiae darker. Abdomen yellowish white with dark brown markings on dorsum as shown in Fig. 14, but in some specimens dorsum with pattern as shown in Fig. 15, or dorsum wholly dark brown with yellowish white chevrons in median part. Spinnerets dusky yellow.

Distribution. Japan (Iriomotejima Island, Yonaguni-jima Island) and Taiwan (Fig. 20).

Remarks. This species is very similar to *Phrurolithus lynx* Kamura 1994 in general appearance, but is sepa-

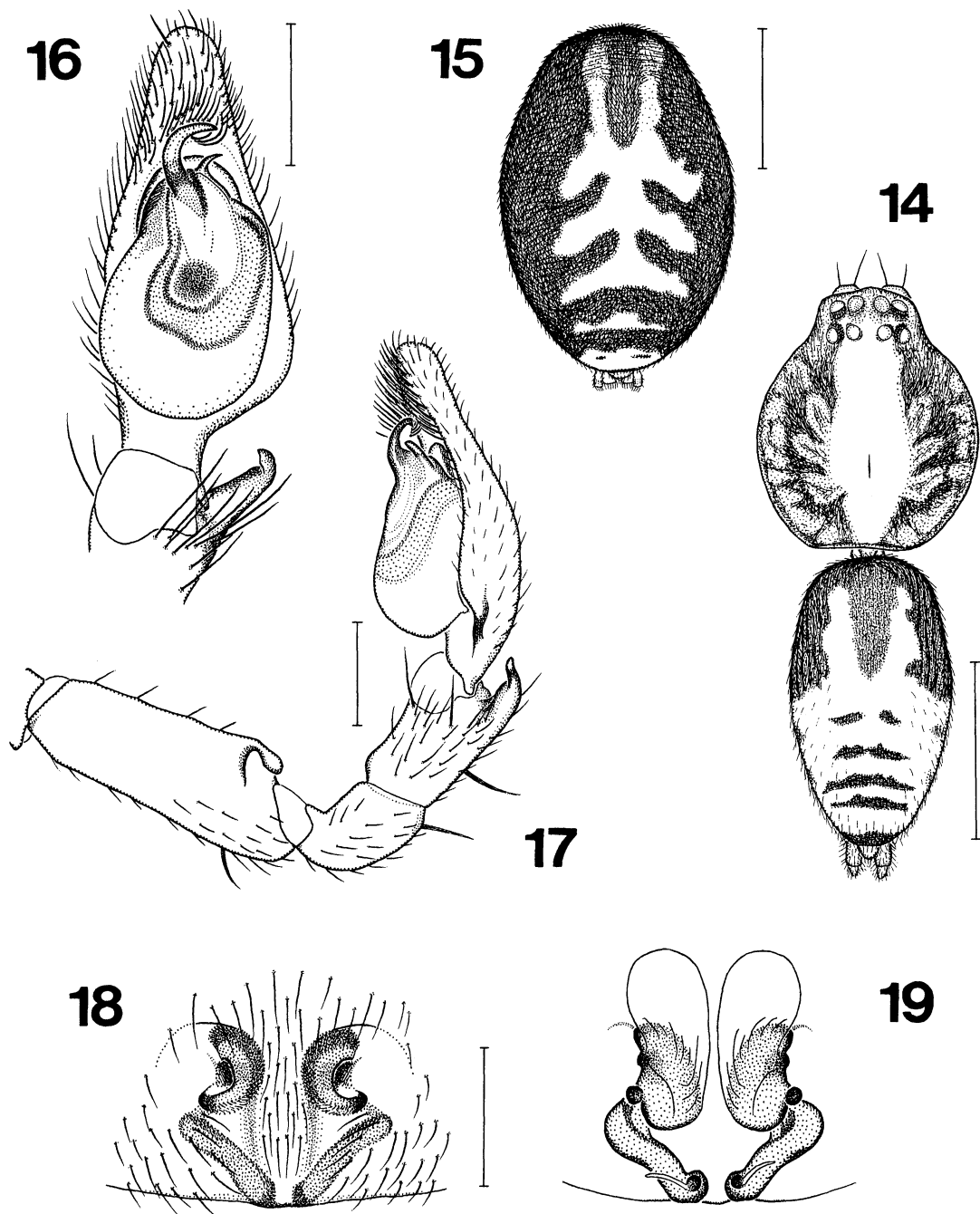


**Figs. 8–13.** *Phrurolithus sinicus* Zhu & Mei 1982 (Okayama Pref.) — 8, Male body, dorsal view; 9, female body, dorsal view; 10, left male palp, ventral view; 11, same, retrolateral view; 12, epigynum, ventral view; 13, female genitalia, dorsal view. (Scales: 8–9, 1.0 mm; 10–13, 0.1 mm)

rated from the latter by the following points. Male palp of this species has a small projection situated retrolaterally to embolus, while in *P. lynx* such a projection is absent (see Kamura 1994, figs. 8–9). Female genitalia of this species has spermathecae posteriorly converging, while in *P. lynx* spermathecae nearly parallel (see

Kamura 1994, figs. 10–11).

Distribution of the two species (Fig. 20) suggests that they are vicariants each other, but a slight overlap in Iriomotejima Island and southern Taiwan attests they are two good biological species.



**Figs. 14–19.** *Phrurolithus taiwanicus* Hayashi & Yoshida 1993 (Yonagunijima Island) — 14, Male body, dorsal view; 15, female abdomen, dorsal view; 16, left male palp, ventral view; 17, same, retrolateral view; 18, epigynum, ventral view; 19, female genitalia, dorsal view. (Scales: 14–15, 1.0 mm; 16–19, 0.2 mm)

*Phrurolithus lynx* Kamura 1994  
(Fig. 20)

*Phrurolithus lynx* Kamura 1994, p. 165, figs. 8–13; Platnick 1997, p. 700; Shinkai *et al.* 1998, p. 28; Tanikawa & Sasaki 1999, p. 85; Tanikawa 2000, p. 119.

Specimens examined (collected from other than Iriomotejima Island). JAPAN: Kagoshima Pref.: 1♂ & 1♀, Haruo, Yakushima Island, 280 m alt., 29.VIII.1999, TTK. Okinawa Pref.: 1♂, Mt. Otowa-dake, Nakijin-son, Okinawajima Island, 270 m alt., 26.VII.1997, TTK; 1♀, Asahikawa, Nago-shi, Okinawajima Island, 140 m alt.,

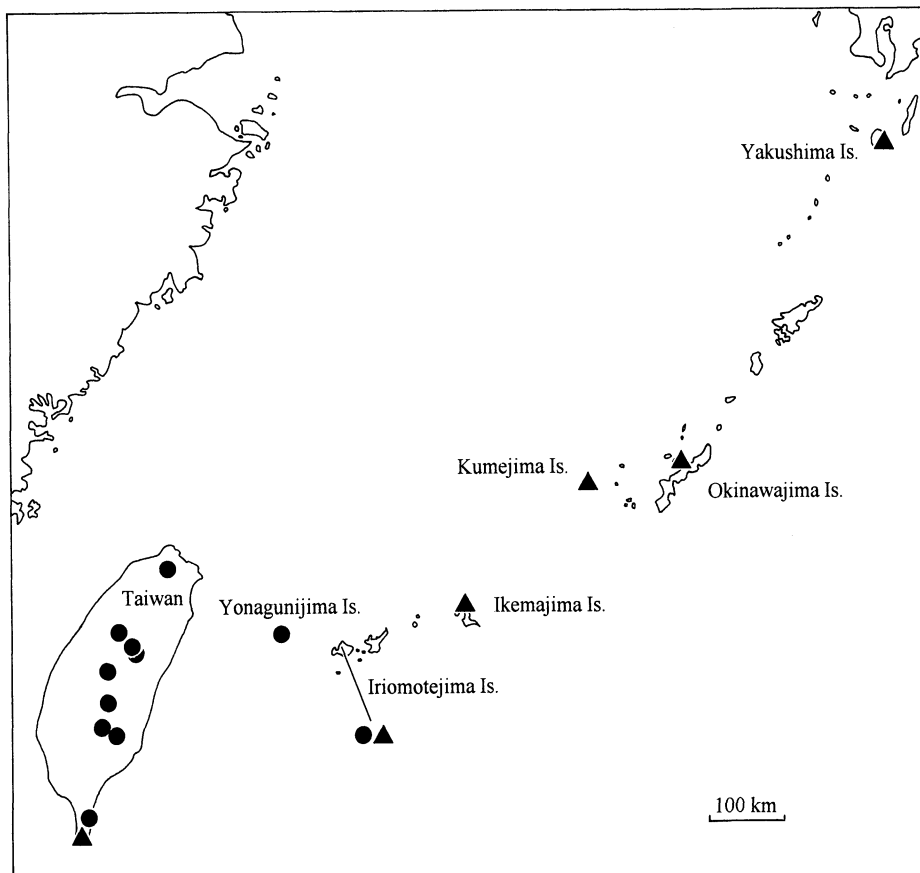
26.VII.1997, TTK; 1♂, Shimajirizaki, Kumejima Island, 20–30 m alt., 17.II.1999, TTK; 1♀, S of Zenda, Kumejima Island, 60–100 m alt., 18.II.1999, TTK; 1♀, Kanegusuku, Kumejima Island, 8.III.1997, K. Ohara leg.; 3♂ & 2♀, southern part of Ikemajima Island, Miyako Islands, 10 m alt., 23.VII.1997, TTK (1♂: NSMT-Ar 4839, 1♀: NSMT-Ar 4840). TAIWAN: 5♂, K'enting National Park, Pingtung-hsien, 280 m alt., 22.III.1991, HO (NSMT-Ar 4841).

Description was made by Kamura (1994).

Measurements (variation). Body length ♂ 2.18–3.95 mm, ♀ 3.20–4.90 mm. Carapace length ♂ 1.08–1.90 mm, ♀ 1.33–1.75 mm; width ♂ 0.90–1.58 mm, ♀ 1.10–1.43 mm. Abdomen length ♂ 1.05–1.98 mm, ♀ 1.75–2.95 mm; width ♂ 0.65–1.19 mm, ♀ 1.13–2.00

**Table 3.** Measurements of legs of *Phrurolithus taiwanicus* Hayashi & Yoshida 1993 (♂/♀, in mm).

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	1.74/1.95	0.56/0.65	1.94/2.24	1.74/1.80	0.98/1.00	6.96/7.64
II	1.44/1.63	0.52/0.60	1.42/1.66	0.32/1.40	0.80/0.85	5.50/6.14
III	1.23/1.38	0.46/0.53	1.00/1.13	1.26/1.38	0.70/0.75	4.65/5.17
IV	1.98/2.16	0.54/0.60	1.70/1.93	2.10/2.31	0.98/1.05	7.30/8.05



**Fig. 20.** Distribution of two species of *Phrurolithus* in Nansei Islands and Taiwan according to the present state of knowledge. ●: *P. taiwanicus* Hayashi & Yoshida 1993, ▲: *P. lynx* Kamura 1994.

mm.

Distribution. Japan (Nansei Islands) and Taiwan (Fig. 20).

Remarks. This species was originally described from Iriomotejima Island, and was also recorded from Okinawajima Island (Shinkai *et al.* 1998). It has been confirmed that this species also occurs in the other areas of Nansei Islands, southwest Japan and Taiwan.

This species is similar to *Phrurolithus taiwanicus* Hayashi & Yoshida 1993. As for the discrimination, see the remarks of *P. taiwanicus*.

*Phrurolithus labialis* Paik 1991

[Japanese name: Usuiro-urashimagumo]

(Figs. 21–23)

*Phrurolithus labialis* Paik 1991a, p. 177, figs. 17–28; Platnick 1993, p. 604;

Specimens examined. 1 ♀, Kami-echi, Atsugi-shi, Kanagawa Pref., Japan, 13.IV.1995, M. Ban leg. (NSMT-Ar 4842). 1 ♀, Okushi, Osaki-cho, Toyota-gun, Hiroshima Pref., Japan, 6.V.1993, Y. Ihara leg.

Description. Measurements (based on one female from Kanagawa Pref., in mm). Body length 2.30. Carapace length 1.08, width 0.88. Abdomen length 1.22,

width 0.82. Eye sizes: AME 0.05, ALE 0.07, PME 0.05, PLE 0.05. Distances between eyes: AME-AME 0.03, AME-ALE 0.01, PME-PME 0.05, PME-PLE 0.03, ALE-PLE 0.02. MOA anterior width 0.13, posterior width 0.15, length 0.15. Clypeus height 0.07. Length of legs as in Table 4.

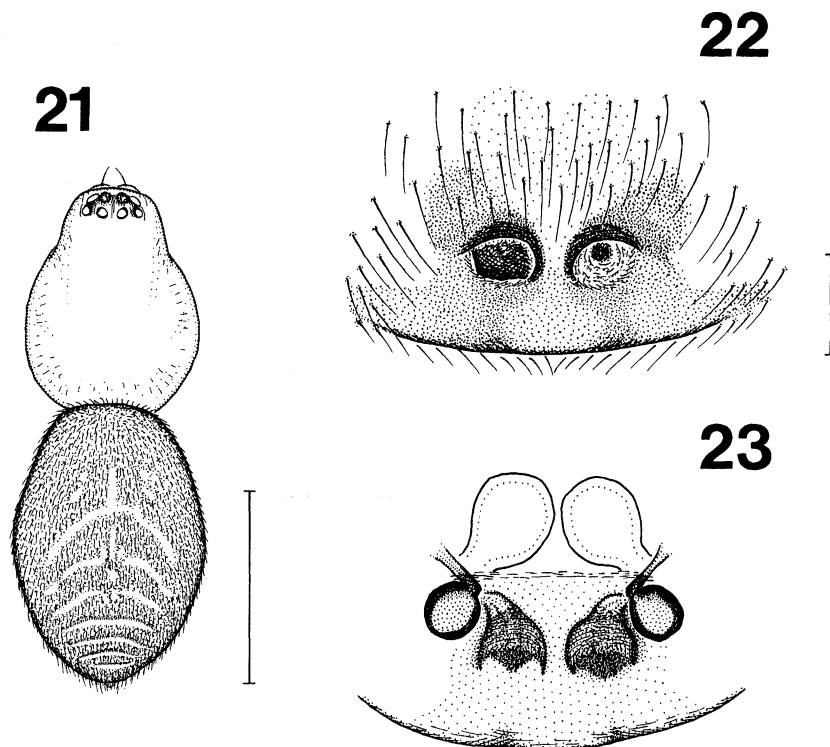
Variation. 1 ♀ from Hiroshima Pref.: body length 2.38 mm; carapace length 1.12 mm, width 0.89 mm; abdomen length 1.42 mm, width 0.97 mm.

Spines on legs. All femora with no dorsal spine; femur I with one spine on prolateral side of distal part; femur II with no prolateral spine. Number of ventral spines on tibiae and metatarsi: tibia I pv 4, rv 4; tibia II pv 4, rv 3 or 4; tibia III pv 0 or 1, rv 0; tibia IV pv 1 or 2, rv 2; metatarsus I pv 4, rv 3 or 4; metatarsus II pv 4, rv 2 or 3; metatarsi III-IV pv 2, rv 2.

Chelicera with one spine on anterior side; promargin of fang furrow with three teeth and retromargin with two teeth. Thoracic groove indistinct. Female abdomen without a dorsal scutum (Fig. 21). Epigynum and female genitalia as shown in Figs. 22–23.

Color. ♀: cephalothorax and appendages yellowish brown; abdomen light grayish brown, dorsum with light-colored indistinct chevrons, venter paler.

Distribution. Japan (Honshu) and Korea.



**Figs. 21–23.** *Phrurolithus labialis* Paik 1991 (21, Hiroshima Pref.; 22–23, Kanagawa Pref.) —21, Female body, dorsal view; 22, epigynum, ventral view; 23, female genitalia, dorsal view. (Scales: 21, 1.0 mm; 22–23, 0.1 mm)



Remarks. In one female examined, a mating plug is attached to one of the copulatory openings (Fig. 22); in the other female, epigynum is wholly covered with a mating plug.

There are some differences between this species and the other Japanese members of *Phrurolithus*. In this species thoracic groove is indistinct, and tibiae III–IV and metatarsi III–IV each have ventral spines, while in the other species thoracic groove is long and distinct, and no ventral spine is found in legs III and IV. These differences indicate that further study on the generic position of this species is needed.

### Family Corinnidae

#### *Corinna gulosa* (Thorell 1878)

[Japanese name: Hamakaze-hachigumo]

(Figs. 24–30)

*Creugas gulosus* Thorell 1878, p. 175.

*Corinna gulosa*: Simon 1898, p. 196; Roewer 1954, p. 594;

Bonnet 1956, p. 1212; Deeleman-Reinhold 2001, p. 260, figs. 337–347, map 19.

For other literature see Roewer (1954), Bonnet (1956) and Deeleman-Reinhold (2001).

Specimens examined. All the specimens were collected from Okinawa Pref., Japan. 1♂, Kurohama-Utaki, Irabujima Island, Miyako Islands, 5 m alt., 22.VII.1997 (matured on 20.VIII.1997), TTK. 5♂ and 2♀, Hoshidate, Iriomotejima Island, 5 m alt., 11.III.1994, TTK (1♂: NSMT-Ar 4843, 1♀: NSMT-Ar 4844). 1♀, Sonai, Yonagunijima Island, 5 m alt., 17.III.1997 (matured on 15.VI.1997), TTK.

Description. Measurements (based on one male and one female from Iriomotejima Island, in mm). Body length ♂ 7.10, ♀ 7.75. Carapace length ♂ 3.50, ♀ 3.70; width ♂ 2.60, ♀ 2.80. Abdomen length ♂ 3.60,

♀ 4.05; width ♂ 2.15, ♀ 2.65. Eye sizes: AME ♂ 0.23, ♀ 0.24; ALE ♂ 0.18, ♀ 0.20; PME ♂ 0.14, ♀ 0.15; PLE ♂ 0.18, ♀ 0.18. Distances between eyes: AME-AME ♂ 0.08, ♀ 0.09; AME-ALE ♂ 0.04, ♀ 0.04; PME-PME ♂ 0.18, ♀ 0.20; PME-PLP ♂ 0.21, ♀ 0.22; ALE-PLP ♂ 0.03, ♀ 0.04. MOA anterior width ♂ 0.50, ♀ 0.52; posterior width ♂ 0.46, ♀ 0.50; length ♂ 0.46, ♀ 0.48. Clypeus height ♂ 0.28, ♀ 0.26. Length of legs as in Table 5.

Variation. Body length ♂ 6.36–7.55 mm, ♀ 7.45–9.55 mm. Carapace length ♂ 3.13–3.65 mm, ♀ 3.70–3.85 mm; width ♂ 2.30–2.80 mm, ♀ 2.70–2.95 mm. Abdomen length ♂ 3.23–3.90 mm, ♀ 3.75–5.70 mm; width ♂ 2.08–2.30 mm, ♀ 2.65–3.40 mm.

Spines on legs. Femora I–II each with two dorsal spines and one spine (rarely two spines) on prolateral side. Tibiae I–II and metatarsi I–II each with ventral spines: number of spines: tibia I pv 6 or 7, rv 6 or 7; tibia II pv 5 (rarely 6), rv 5; metatarsi I–II pv 2, rv 2. Legs III–IV with many spines.

Chelicera stout, with three teeth on promargin of fang furrow, and four or five teeth on retromargin (Fig. 25). Endites and labium as shown in Fig. 26. Thoracic groove distinct. Male abdomen with a narrow dorsal scutum on anterior part (Fig. 24). Female abdomen without a dorsal scutum. Male palp (Figs. 27–28): embolus flattened; embolar base with a small projection on retrolateral side; conductor large, membranous; cymbium with a unique shaped apophysis on retrolateral side of basal part; tibia with complicated apophyses on retrolateral side. Epigynum with a longitudinal tunnel on median part (Fig. 29). Female genitalia as shown in Fig. 30.

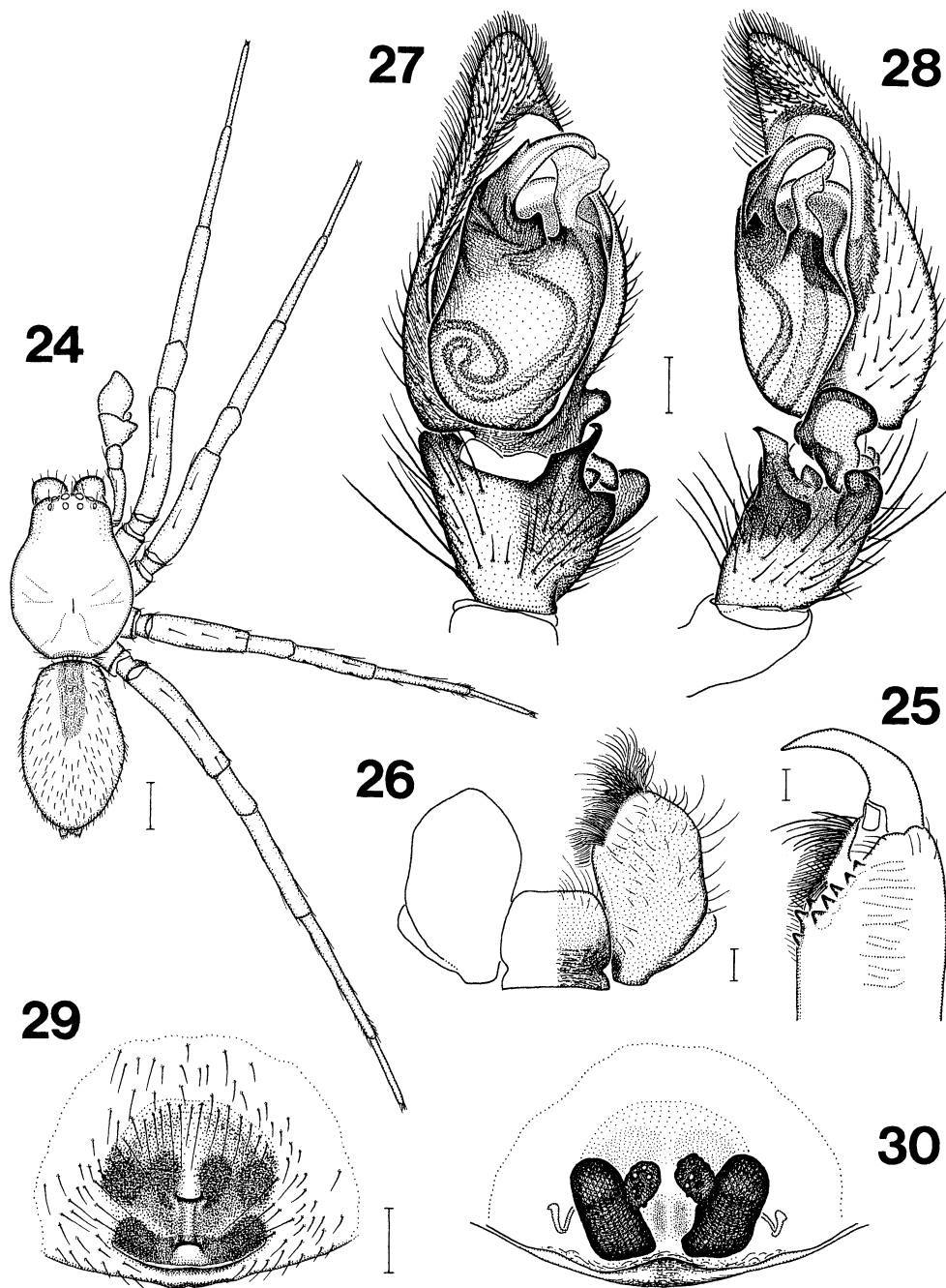
Color. Cephalothorax and appendages dark reddish brown, carapace and chelicera darker; abdomen brown,

**Table 4.** Measurements of legs of *Phrurolithus labialis* Paik 1991 (♀, in mm).

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	0.79	0.34	0.60	0.62	0.44	2.79
II	0.72	0.32	0.47	0.54	0.43	2.48
III	0.60	0.29	0.38	0.54	0.40	2.21
IV	0.79	0.34	0.58	0.72	0.51	2.94

**Table 5.** Measurements of legs of *Corinna gulosa* (Thorell 1878) (♂/♀, in mm).

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	2.75/2.90	1.15/1.25	2.45/2.55	2.25/2.20	1.78/1.70	10.38/10.60
II	2.55/2.70	1.10/1.20	2.05/2.15	2.05/2.08	1.60/1.58	9.35/9.71
III	2.25/2.40	1.00/1.08	1.75/1.83	2.15/2.23	1.33/1.33	8.48/8.87
IV	2.95/3.10	1.10/1.20	2.45/2.65	3.00/3.13	1.55/1.60	11.05/11.68



**Figs. 24–30.** *Corinna gulosa* (Thorell 1878) (Iriomotejima Island) —24, Male, dorsal view; 25, left female chelicera, posterior view; 26, female endites and labium, ventral view; 27, left male palp, ventral view; 28, same, retrolateral view; 29, epigynum, ventral view; 30, female genitalia, dorsal view. (Scales: 24, 1.0 mm; 25–30, 0.2 mm)

venter paler; spinnerets yellowish brown.

**Distribution.** Japan (Irabujima Island, Iriomotejima Island, Yonagunijima Island) and South East Asia.

**Remarks.** I identified the Japanese specimens with *Corinna gulosa* based on the description by Deeleman-Reinhold (2001). On the other hand, judging from the

figures drawn by Lessert (1946, fig. 13) and Wunderlich (1987, fig. 635; 1992, fig. 732), the Japanese specimens are also similar to *Corinna senegalensis* (Simon 1885) known from West Africa and Canary Islands. These two species seem to be conspecific, but I reserve judgement on the synonymy because I have examined specimens

from neither South East Asia nor Africa.

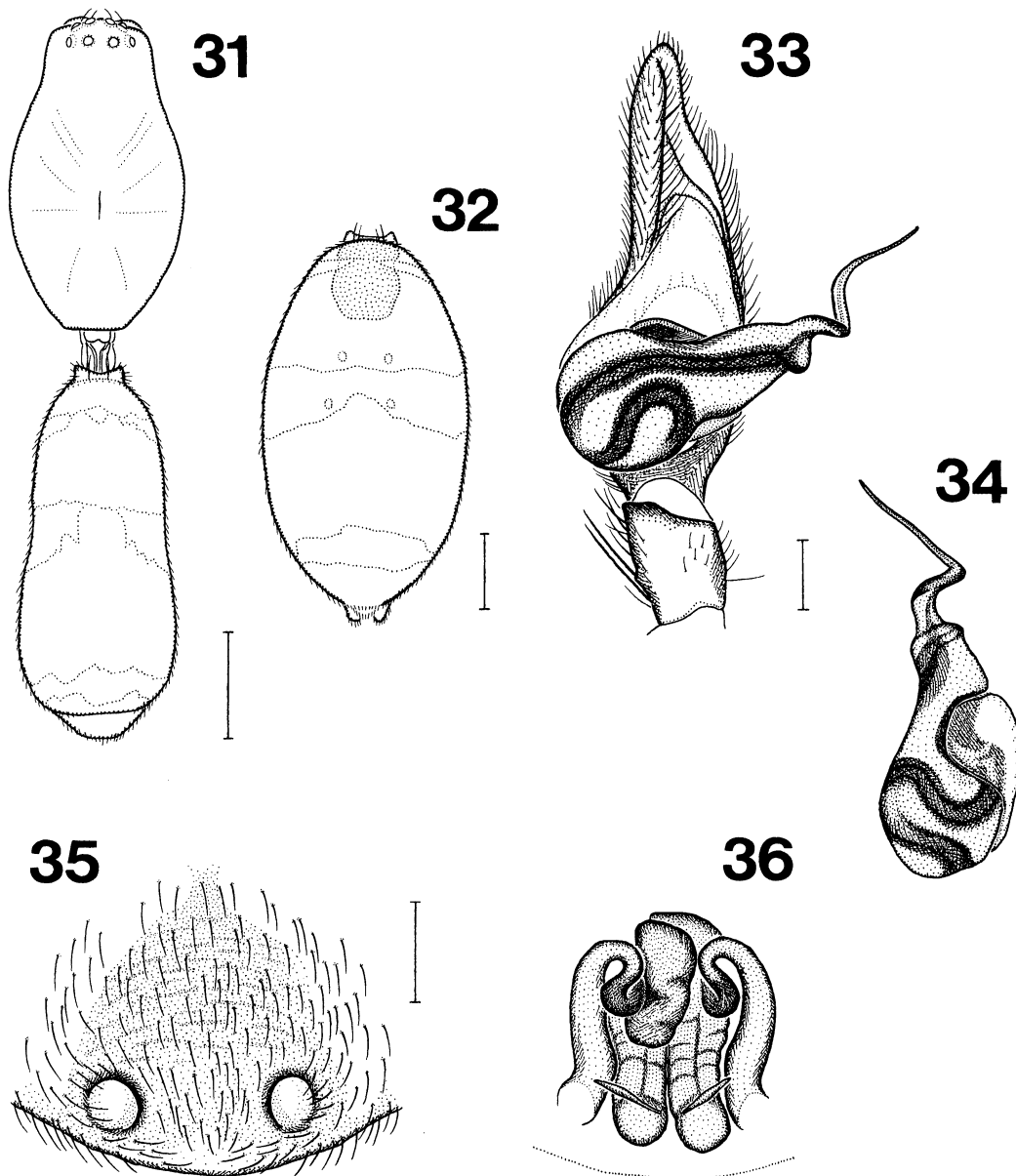
*Castianeira shaxianensis* Gong 1983  
(Figs. 31–36)

*Castianeira* sp.: Yaginuma 1960, p. 114, pl. 52 (fig. 314);  
Yaginuma 1986, p. 184, pl. 49 (fig. 9); Chikuni 1989, pp.  
128 (fig. 29), 259.

*Castianeira shaxianensis* Gong 1983, p. 63, figs. 9–16; Song  
1987, p. 312, fig. 266; Platnick 1989, p. 447; Paik 1991b,  
p. 257, figs. 1–10; Yaginuma 1991, p. 48; Platnick 1993,

p. 619; Song, Zhu & Chen 1999, p. 429, fig. 254(Q–R);  
Tanikawa 2000, p. 122.

Specimens examined. 1 ♀, Noji-higashi, Kusatsu-shi,  
Shiga Pref., Japan, 23.V.1998, T. Masumoto leg. 1 ♀,  
Kamitanakami-Kiryu-cho, Otsu-shi, Shiga Pref., Japan,  
8.VII.1993, Y. Hatamori leg. 1 ♀, Kurumatsukuri, Ibaraki-  
shi, Osaka Pref., Japan, 200 m alt., 20.VI.1992, S. Kaneno  
leg. (NSMT-Ar 4845). 1 ♂, Shirakawadai, Suma-ku, Kobe-  
shi, Hyogo Pref., Japan, 22.VI.1979, T. Yamano leg.  
(NSMT-Ar 4846). 1 ♀, Mt. Ushita-yama, Higashi-ku,  
Hiroshima-shi, Hiroshima Pref., Japan (date and collector



**Figs. 31–36.** *Castianeira shaxianensis* Gong 1983 (31, 33–34, Hyogo Pref.; 32, Shiga Pref.; 35–36, Osaka Pref.)  
— 31, Male body, dorsal view; 32, female abdomen, dorsal view; 33, left male palp, ventral view; 34, bulb of  
left male palp, retrolateral view; 35, epigynum, ventral view; 36, female genitalia, dorsal view. (Scales: 31–32,  
1.0 mm; 33–36, 0.2 mm)

unknown).

Description. Measurements (based on one male from Kobe-shi and one female from Ibaraki-shi, in mm). Body length ♂ 6.70, ♀ 7.80. Carapace length ♂ 2.95, ♀ 3.40; width ♂ 1.65, ♀ 1.85. Abdomen length ♂ 3.50, ♀ 3.95; width ♂ 1.45, ♀ 1.95. Eye sizes: AME ♂ 0.12, ♀ 0.12; ALE ♂ 0.12, ♀ 0.12; PME ♂ 0.10, ♀ 0.11; PLE ♂ 0.12, ♀ 0.12. Distances between eyes: AME-AME ♂ 0.06, ♀ 0.08; AME-ALE ♂ 0.02, ♀ 0.02; PME-PME ♂ 0.14, ♀ 0.14; PME-PLP ♂ 0.10, ♀ 0.11; ALE-PLP ♂ 0.09, ♀ 0.12. MOA anterior width ♂ 0.30, ♀ 0.32; posterior width ♂ 0.34, ♀ 0.36; length ♂ 0.34, ♀ 0.38. Clypeus height ♂ 0.24, ♀ 0.24. Length of legs as in Table 6.

Variation. Body length ♀ 7.15–8.65 mm. Carapace length ♀ 3.40–3.60 mm; width ♀ 1.83–1.95 mm. Abdomen length ♀ 3.70–4.95 mm; width ♀ 1.95–2.65 mm.

Spines on legs. Femora I–II each with three spines on dorsal side, and no or one spine on prolateral side of distal part (femur I with one spine, femur II with no or one spine). Tibiae I–II and metatarsi I–II each with ventral spines: number of spines: ♂: tibia I pv 3, rv 2 or 3; tibia II pv 1, rv 1 or 2; metatarsi I and II pv 2, rv 2. ♀: tibia I pv 3, rv 2 or 3; tibia II pv 0, 1 or 2, rv 2 or 3; metatarsi I and II pv 2, rv 2. Legs III–IV with many spines.

Chelicera with three teeth on promargin of fang furrow, and two teeth on retromargin. Thoracic groove distinct. Male abdomen with a dorsal scutum covering almost whole abdomen (Fig. 31). Female abdomen with a small dorsal scutum on anterior part (Fig. 32). Male palp with twisted embolus (Figs. 33–34). Epigynum with a pair of rounded copulatory openings on posterior part (Fig. 35). Female genitalia as shown in Fig. 36.

Color. Carapace, mouth parts and sternum blackish brown, but posterior side of chelicera yellowish brown, mesal part of endite and anterior part of labium yellowish white. Palp with femur blackish brown, and other segments reddish brown. Legs with coxae I and IV brown to blackish brown, coxae II–III whitish yellow to yellowish brown; femur I blackish brown, but apical part

whitish yellow with longitudinal blackish brown lines on dorsum and both lateral sides; femora II–III similar to apical part of femur I; femur IV almost blackish brown; distal four segments whitish yellow to yellowish brown in legs I–II, and reddish brown to dark brown in legs III–IV (fundamentally light-colored parts of legs with dark-colored longitudinal lines on dorsum and both lateral sides). Abdomen blackish brown with three transverse pale white bands on dorsum, and a small white spot on posterior end of dorsum.

Distribution. Japan (Honshu), China and Korea.

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**Table 6.** Measurements of legs of *Castianeira shaxianensis* Gong 1983 (♂/♀, in mm).

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	1.86/2.17	0.70/0.83	1.66/1.87	1.67/1.73	1.29/1.23	7.18/7.83
II	1.64/1.90	0.64/0.70	1.39/1.57	1.52/1.55	1.15/1.10	6.34/6.82
III	1.58/1.83	0.67/0.80	1.26/1.47	1.54/1.70	0.94/0.95	5.99/6.75
IV	2.30/2.60	0.86/1.00	2.09/2.42	2.60/2.98	1.17/1.23	9.02/10.23

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グモ、カガリグモ改称) および *Clubiona parvula* (S. Saito 1933) new combination (ヌカアブラフクログモ、改称) は *Steatoda* から新たに転属した。日本産の3種 *Enoplognatha japonica* Bösenberg & Strand 1906 ヤマトコノハグモ, *E. dorsinotata* Bösenberg & Strand 1906 セマダラコノハグモおよび *Steatoda albimaculosa* (S. Saito 1934) ブチモチイグモをヨーロッパから北アメリカまで広く分布する *E. tecta* (Keyserling 1884) (和名にはヤマトコノハグモを当てる) の, また日本産の *E. transversifoveata* (Bösenberg & Strand 1906) と中国産の *E. hangzhouensis* Zhu 1998 を *E. abrupta* (Karsch 1879) カレハヒメグモの, さらに中国産の *E. submarginata* Yaginuma & Zhu 1992 を日本で記載された *E. margarita* Yaginuma 1964 シロタマヒメグモの新参異名とした。2つの種名 *S. japonica* (Dönitz & Strand 1906) オスナキグモおよび *S. minus* (Dönitz & Strand 1906) コヌサグモを *nomina dubia* 疑問名とし, 本論では扱っていない。なお, *Steatoda* 属の和名カガリグモ属はそのまま使用する。

#### 日本及び台湾産のウエムラグモ科及びネコグモ科のクモ7種 (pp. 53-65)

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日本及び台湾産の標本に基づいて, ウエムラグモ科の5種及びネコグモ科の2種を報告した。ウラシマグモ属の1新種を *Phrurolithus vulpes* コガネウラシマグモ (新称) と命名して記載し, *Phrurolithus sinicus* Zhu & Mei 1982 コツブウラシマグモ (新称), *P. taiwanicus* Hayashi & Yoshida 1993 タイワンウラシマグモ (新称), *P. labialis* Paik 1991 ウスイロウラシマグモ (新称) 及び *Corinna gulosa* (Thorell 1878) ハマカゼハチグモ (新称) の4種を日本新記録種として報告した。

*Corinna* ハチグモ属 (新称) のクモが日本から記録されたのは初めてである。また, *Phrurolithus lynx* Kamura 1994 ヤマネコウラシマグモの台湾における分布を明らかにした。さらに, *Phrurolithus taiwanicus* の雄とジガバチグモ属の *Castianeira shaxianensis* Gong 1983 オビジガバチグモの雄を初めて記載した。

#### 日本産オニグモ属の12新種および1新記録種 (pp. 67-90)

谷川明男 (〒248-0025 神奈川県鎌倉市七里が浜東 2-3-1 神奈川県立七里が浜高等学校)

日本各地から採集された標本にもとづき, 次の12新種および1新記録種を記載した。 *Araneus nojimai* マメオニグモ, *A. tsurusakii* カラオニグモ, *A. ryukyuanus* リュウキュウオニグモ (新称), *A. borealis* キタマメオニグモ (新称), *A. iriomotensis* イリオモテオニグモ (新称), *A. yasudai* ヤスダヒメオニグモ (新称), *A. hoshi* ホシマメオニグモ (新称), *A. komi* コミオニグモ (新称), *A. ogatai* オガタオニグモ (新称), *A. miyashitai* コケオニグモ, *A. mayumiae* マユミオニグモ (新称), *A. amabilis* チュラオニグモ (新称), *A. acusisetus* Zhu & Song 1994 オオクマヤミイロオニグモ (新称)。

#### トリノフンダマシ属の2新シノニム (pp. 91-93)

谷川明男 (〒248-0025 神奈川県鎌倉市七里が浜東 2-3-1 神奈川県立七里が浜高等学校)

ソメワケトリノフンダマシ *Cyrtarachne induta* Yaginuma 1960 をアカイロトリノフンダマシ *C. yunoharuensis* Strand, 1918 の, クロトリノフンダマシ *C. nigra* Yaginuma 1960 をシロオビトリノフンダマシ *C. nagasakiensis* Strand 1918 のそれぞれ新参シノニムとした。